# 29 Lecture - CS304

## **Important Mcqs**

- 1. Which keyword is used to define an abstract class in C++?
  - a) virtual
  - b) abstract
  - c) interface
  - d) class

Answer: b) abstract

#### Which of the following is true about abstract classes?

- a) They can be instantiated
- b) They cannot be inherited
- c) They provide a common interface for derived classes
- d) They do not allow any data members

Answer: c) They provide a common interface for derived classes

#### Which of the following is true about pure virtual functions?

- a) They have an implementation in the base class
- b) They can be called from the base class
- c) They must be overridden in the derived class
- d) They cannot be overridden in the derived class

Answer: c) They must be overridden in the derived class

#### Can an abstract class have concrete (non-virtual) functions?

- a) Yes
- b) No

Answer: a) Yes

#### Which of the following is a correct syntax for declaring a pure virtual function?

- a) virtual void func() const = 0;
- b) pure virtual void func() = 0;
- c) void virtual func() = 0;
- d) void func() const = 0;

Answer: a) virtual void func() const = 0;

#### Which of the following is a correct way to create an instance of an abstract class?

- a) Shape s;
- b) Shape\* s = new Shape();
- c) Circle c;
- d) None of the above

Answer: d) None of the above

#### Which of the following is true about abstract classes and interfaces?

- a) They are the same thing
- b) Interfaces cannot have data members

- c) Abstract classes cannot have pure virtual functions
- d) None of the above

## Answer: b) Interfaces cannot have data members

#### Which of the following is an advantage of using abstract classes?

- a) They allow multiple inheritance
- b) They allow for runtime polymorphism
- c) They provide a mechanism for code reuse
- d) They can be instantiated

### Answer: c) They provide a mechanism for code reuse

### Which of the following is not an example of an abstract class?

- a) Shape
- b) Animal
- c) Car
- d) Vehicle

Answer: c) Car

#### Which of the following statements is true about abstract classes?

- a) All member functions must be pure virtual functions
- b) Abstract classes cannot have constructors
- c) Abstract classes cannot have concrete functions
- d) Abstract classes cannot have data members

Answer: c) Abstract classes cannot have concrete functions